

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/28/11 has been entered.
2. Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCormick 2003/0143423 in view of Chun 6,710,542. McCormick discloses an organic electronic component (an OED) 18 on a substrate encapsulated in a dimensionally stable capsule (the glass cover plate 24), an adhesive seal 22 comprising absorbents [0027] that attaches the cover plate to the substrate, and a protective or barrier film 26 that covers the transition area from the capsule to the substrate (see Figure 1A) and is more insulating against moisture and/or oxygen than the adhesive 22; see [0033] and [0040]. Concerning the term "thin", this term is a relative term, and as such, does not distinguish over the film 26 in the reference. However McCormick 2003/0143423 does not disclose the claimed thickness of his protective barrier film or the use of silicon nitride as the protective or barrier film. It would have been obvious to one of ordinary skill in the art to adjust the thickness of the barrier layer 26 in McCormick 2003/0143423 to any particular thickness so as to provide a desired level of barrier properties for a particular end use since a change in size is generally recognized as being within the

level of ordinary skill in the art. Regarding the use of a silicon nitride protective or barrier layer, Chun discloses the use of silicon nitride in his encapsulation for an organic electronic component; see column 2, lines 13-15, claim 1. It would have been obvious to one of ordinary skill in the art to use a silicon nitride film as the protective film in the primary reference in view of the teachings in the secondary reference to improve barrier properties and since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. Concerning claim 3, McCormick does not disclose "a protective film" that covers the entire exterior of the component. Chun discloses this feature in his encapsulation for an organic electronic component with a protective film of silicon nitride; see column 2, lines 13-15, claim 1 and column 4, lines 47-52. It would have been obvious to one of ordinary skill in the art to use a silicon nitride film that covers the entire exterior of the component as the protective film in the primary reference in view of the teachings in the secondary reference to improve barrier properties and since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

3. Claims 16, 17, 19, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fazzio 7,642,642 in view of Chun 6,710,542. Fazzio discloses a circuit 24 encapsulated in a capsule 30 having lateral areas 32 that are attached to a substrate by adhesive 34 and a protective film 36 covering the area of transition from the capsule to the substrate; see Figure 3A. However, Fazzio does not disclose his

circuit as being an organic electronic component. The secondary reference discloses an encapsulated organic electronic circuit 12, 13, 14, 16 comprising a capsule attached to a substrate 11 with an adhesive 17 which is coated with a protective film over part or all of the capsule and adhesive; see Figures 2 and 3. Thus, the secondary reference teaches that it is well-known to encapsulate organic electronic circuits. It would have been obvious to one of ordinary skill in the art to use the encapsulation structure of Fazzio to encapsulate an organic circuit in view of the disclosure in the secondary reference because this involves a simple substitution of one known element for another to obtain predictable results. Fazzio also does not disclose "a protective film" that covers the entire exterior of the component or the use of a silicon nitride protective film. The secondary reference discloses this feature in its encapsulation of an organic electronic component with a protective film of silicon nitride; see column 2, lines 13-15, claim 1 and column 4, lines 47-52. It would have been obvious to one of ordinary skill in the art to use a silicon nitride film (claim 19) that covers the entire exterior of the component (claim 17) as the protective film in the primary reference in view of the teachings in the secondary reference to improve barrier properties and since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. Concerning new claims 21 and 22, the secondary reference also discloses the use of alternating layers of organic material and inorganic material as the protective material; see column 3, lines 13-18. It would have been obvious to one of ordinary skill in the art to use alternating layers of organic material and inorganic material as the protective layer in the product of

the primary reference in view of the teachings in the secondary reference in order to provide moisture and oxygen barrier properties.

Response to Arguments

4. Applicant argues the “silicon nitride” in the claims is directed to Si_3N_4 and thus distinguishes over the silicon nitride, namely SiNH , used in Chun. This is not convincing of patentability. First, there is no original disclosure directed to the Si_3N_4 form of silicon nitride as applicant suggests. The only original disclosure is to “silicon nitride”. The term “silicon nitride” is commonly used to refer to various forms such as SiNH and Si_3N_4 ; see column 4, lines 41-42 of Yagyu 5,160,835. Therefore, it cannot be said that the term “silicon nitride” used in the claims is limited to Si_3N_4 and excludes SiNH .

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEXANDER THOMAS whose telephone number is (571)272-1502. The examiner can normally be reached on 6:30-4:00 M-THUR.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on 571-272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Alexander Thomas/
Primary Examiner
Art Unit 1783